REMARKS

Claims 1-14 are pending in this application. By this Amendment, the specification and claims 1, 7 and 8 are amended. A new abstract is also submitted. No new matter is added.

Applicants gratefully acknowledge the indication that claims 4-6, 9-11 and 14 contain allowable subject matter.

The courtesies extended to Applicant's representative by Examiner Souw during the May 18 telephone interview are appreciated. The reasons presented at the interview as warranting favorable action are incorporated into the remarks below and constitute Applicants' record of the interview.

The Office Action objects to the specification under 35 U.S.C. §112, first paragraph, as failing to provide adequate written description of the invention and as failing to adequately reach how to make and/or use the invention. Specifically, the Office Action objects to the use of the phrase "trapped" regarding the ions being discharged from an ion source. Applicants submit a new abstract and amend paragraphs [0007], [0008], [0018] and [0020] to clarify that the ions being discharged from the ion source are "influenced" by the earth's magnetic field lines, as suggested by the Office Action. Accordingly, withdrawal of the objection to the specification is respectfully requested.

The Office Action rejects claims 1-6 under 35 U.S.C. §112, first paragraph, asserting that the claims fail to comply with the written description requirement. This rejection is respectfully traversed.

Applicants respectfully submit that the amendments to claim 1 obviate the rejection of claims 1-6. Specifically, the word "trapped" is replaced with the word "influenced" to clarify the claims as suggested by the Office Action. Accordingly, withdrawal of the rejection of claims 1-6 under 35 U.S.C. §112 is respectfully requested.

The Office Action rejects claims 7, 8, 12 and 13 under 35 U.S.C. §103(a) over CSS in "Space Instruments" available at http:/utd500,utdallas.edu/www_root/documents/Spaceinstruments.htm (hereafter "CSS"), "Neutral Wind Meter (CINDI Instrument)," as recited on page 4, as further described in "Neutral Wind Meter (NWM)," available at http://129.110.7.63/heelis/nwm.html (hereafter "NWM"). This rejection is respectfully traversed.

Independent claim 7 recites, inter alia, a device for observing high-altitude neutral air, comprising an ion source disposed on an orbit of the earth for discharging ion particles and a neutral particle analyzer disposed on an orbit of the earth wherein the relative position between the ion source and the neutral particle analyzer is not predetermined.

The Office Action asserts that CSS discloses a device called the neutral wind meter for observing high-altitude neutral air, comprising an ion source and a neutral particle analyzer (RPA) where both the ion source and the RPA are disposed on an orbit of the earth. NWM is relied upon for details of the neutral wind meter.

However, the neutral wind meter, disclosed in the first figure on page one of NWM, illustrates an ion source in a fixed position relative to the RPA, and not in a configuration where the relative position between the ion source and the neutral particle analyzer is not predetermined, as recited in claim 7. In other words, NWM implicitly discloses a predetermined relative distance.

During the telephone conference, Examiner Souw acknowledged that the failure of CSS and NWM to explicitly disclose the relative position between the ion source and the neutral particle analyzer as being determined or predetermined is most likely due to an implicit predetermined configuration based upon their fixed positions.

Accordingly, since neither CSS nor NWM discloses, teaches or suggests each and every feature recited in independent claim 7, the rejection of claim 7 under 35 U.S.C. §103(a) is improper. Therefore, Applicants submit that claim 7 is patentable over CSS and NWM.

Claims 8, 12 and 13 are likewise patentable over CSS and NWM at least based on their dependency from claim 7, as well as for the additional features they recite. Withdrawal of the rejection of claims 7, 8, 12 and 13 over CSS and NWM is respectfully requested.

The Office Action rejects claims 1-3 under 35 U.S.C. §103(a) over CSS, NWM and further in view of a website article titled "The Solar Wind Interaction with Venus and Mars" (hereafter "Solar Wind"). This rejection is respectfully traversed.

Independent claim 1 recites a method for observing high-altitude neutral air, comprising the steps of discharging ion particles so as to be influenced by a magnetic field originated from the earth and colliding the ion particles with high-altitude neutral air to generate high velocity neutral particles through charge exchange, wherein the relative position between the discharging position of the ion particles and the detected positions of the neutral particles is not predetermined.

As previously discussed, neither CSS nor NWM discloses this feature. Solar Wind, at the cited reference, likewise fails to disclose a method for observing high-altitude neutral air wherein the relative position between the discharging position of the ion particles and the detected positions of the neutral particles is not predetermined.

Accordingly, as neither CSS nor NWM nor Solar Wind discloses, teaches or suggests each and every feature recited in independent claim 1, the rejection of claim 1 under 35 U.S.C. §103(a) is improper. Applicants respectfully submit, therefore, that independent claim 1 is patentable over CSS, NWM and Solar Wind, either alone or in permissible combination.

Applicants further submit that the neutral wind meter as disclosed by CSS cannot determine the distance from the at least one of the discharging positions of the ion source to

the neutral air as recited in claim 1 because the ionized particles disclosed by CSS are obtained from the neutral beam and the composition of the neutral beam cannot be recognized.

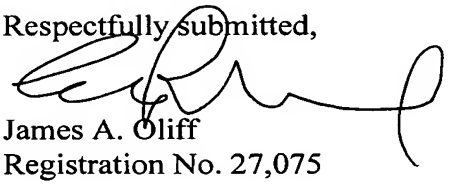
Moreover, claim 1 recites where the ion particles are discharged, whereas CSS fails to disclose where ion particles are discharged and only discloses where ion particles are analyzed.

Claims 2-3 are likewise patentable over the applied references at least based on their dependency from claim 1, as well as for the additional features they recite. Withdrawal of the rejection of claims 1-3 over CSS, NWM and Solar Wind is respectfully requested.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-14 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



James A. Oliff
Registration No. 27,075

Eliot R. Malamud
Registration No. 51,989

JAO:ERM

Attachment:
Abstract

Date: May 23, 2005

OLIFF & BERRIDGE, PLC
P.O. Box 19928
Alexandria, Virginia 22320
Telephone: (703) 836-6400

DEPOSIT ACCOUNT USE AUTHORIZATION
Please grant any extension necessary for entry;
Charge any fee due to our Deposit Account No. 15-0461